

EAST Search History

| Ref # | Hits | Search Query | DBs | Default Operator | Plurals | Time Stamp |
|-------|-------|--|---------------------------------|------------------|---------|------------------|
| S204 | 1 | 10/059488 | US-PGPUB; USPAT; EPO; JPO | OR | OFF | 2006/12/22 07:06 |
| S205 | 1453 | ((voltage\$2time\$1) (voltage near1 time) (time\$2voltage\$1)) and counter and row and column | US-PGPUB; USPAT; EPO; JPO | OR | OFF | 2006/12/22 07:06 |
| S206 | 169 | ((voltage\$2time\$1) (voltage near1 time) (time\$2voltage\$1)) same counter and row and column | US-PGPUB; USPAT; EPO; JPO | OR | OFF | 2006/12/22 07:06 |
| S207 | 3 | ((voltage\$2time\$1)) same counter and row and column | US-PGPUB; USPAT; EPO; JPO | OR | OFF | 2006/12/22 07:06 |
| S208 | 6 | ((voltage\$2time\$1)) near2 (converter\$1 conversion\$1) and row and column | US-PGPUB; USPAT; EPO; JPO | OR | OFF | 2006/12/22 07:06 |
| S209 | 114 | 348/302 and precision | US-PGPUB; USPAT; EPO; JPO | OR | OFF | 2006/12/22 07:06 |
| S210 | 47 | 348/304 and precision | US-PGPUB; USPAT; EPO; JPO | OR | OFF | 2006/12/22 07:06 |
| S211 | 251 | 348/30\$1 and precision | US-PGPUB; USPAT; EPO; JPO | OR | OFF | 2006/12/22 07:06 |
| S212 | 177 | 348/30\$1 and precision and noise | US-PGPUB; USPAT; EPO; JPO | OR | OFF | 2006/12/22 07:06 |
| S213 | 36 | 348/304 and precision and noise | US-PGPUB; USPAT; EPO; JPO | OR | OFF | 2006/12/22 07:06 |
| S214 | 84 | 348/302 and precision and noise | US-PGPUB; USPAT; EPO; JPO | OR | OFF | 2006/12/22 07:06 |
| S215 | 11 | 348/304 and precision and noise and counter | US-PGPUB; USPAT; EPO; JPO | OR | OFF | 2006/12/22 07:06 |
| S216 | 52 | 348/30\$1 and precision and noise and counter | US-PGPUB; USPAT; EPO; JPO | OR | OFF | 2006/12/22 07:06 |
| S217 | 30 | 348/302 and precision and noise and counter | US-PGPUB; USPAT; EPO; JPO | OR | OFF | 2006/12/22 07:06 |
| S218 | 41447 | (voltage\$1 same time\$1) and row and column | US-PGPUB; USPAT; EPO; JPO | OR | OFF | 2006/12/22 07:06 |

EAST Search History

| | | | | | | |
|----------|------|--|---|----|-----|------------------|
| S21 9 | 8099 | (voltage\$1 same time\$1) and row and column same pixel | US-PGPUB; USPAT; EPO; JPO | OR | OFF | 2006/12/22 07:06 |
| S22 0 | 5735 | (voltage\$1 same time\$1) and row and column same pixel\$1 and digital | US-PGPUB; USPAT; EPO; JPO | OR | OFF | 2006/12/22 07:06 |
| S22 1 | 1475 | (voltage\$1 same time\$1) and row and column same pixel\$1 same digital | US-PGPUB; USPAT; EPO; JPO | OR | OFF | 2006/12/22 07:06 |
| S22 2 | 923 | ((voltage\$1 same time\$1) same pixel\$1 same digital) and row and column | US-PGPUB; USPAT; EPO; JPO | OR | OFF | 2006/12/22 07:06 |
| S22 3 | 294 | ((voltage\$1 near7 time\$1) same pixel\$1 same digital) and row and column | US-PGPUB; USPAT; EPO; JPO | OR | OFF | 2006/12/22 07:06 |
| S22 4 | 80 | "348"/\$6 and ((voltage\$1 near7 time\$1) same pixel\$1 same digital) and row and column | US-PGPUB; USPAT; EPO; JPO | OR | OFF | 2006/12/22 07:06 |
| S22 5 | 97 | (satoshi near1 shigematsu).in. | US-PGPUB; USPAT; EPO; JPO | OR | OFF | 2006/12/22 07:06 |
| S22 6 | 50 | (satoshi near1 shigematsu).in. and (hiroki near1 morimura).in. | US-PGPUB; USPAT; EPO; JPO | OR | OFF | 2006/12/22 07:06 |
| S22 7 | 117 | (hiroki near1 morimura).in. | US-PGPUB; USPAT; EPO; JPO | OR | OFF | 2006/12/22 07:06 |
| S22 8 | 15 | ((satoshi near1 shigematsu).in. and (hiroki near1 morimura).in.) and counter | US-PGPUB; USPAT; EPO; JPO | OR | OFF | 2006/12/22 07:06 |
| S22 9 | 12 | (S227 S225) and ((voltage near1 time) voltage/time voltage\$1time) | US-PGPUB; USPAT; EPO; JPO | OR | OFF | 2006/12/22 07:06 |
| S23 0 | 2799 | pixel and (latch same counter) | US-PGPUB; USPAT; EPO; JPO; DERWENT | OR | OFF | 2006/12/22 07:06 |
| S23 1 | 1010 | pixel and (latch same counter) and time same voltage | US-PGPUB; USPAT; EPO; JPO; DERWENT | OR | OFF | 2006/12/22 07:06 |
| S23 2 | 488 | pixel and (latch same counter) and time same voltage and row and column | US-PGPUB; USPAT; EPO; JPO; DERWENT | OR | OFF | 2006/12/22 07:06 |

EAST Search History

| | | | | | | |
|----------|-----|---|---|----|-----|------------------|
| S23 3 | 237 | (latch same counter) and (pixel same time same voltage) and row and column | US-PGPUB; USPAT; EPO; JPO; DERWENT | OR | OFF | 2006/12/22 07:06 |
| S23 4 | 62 | "348"/\$6 and (latch same counter) and (pixel same time same voltage) and row and column | US-PGPUB; USPAT; EPO; JPO; DERWENT | OR | OFF | 2006/12/22 07:06 |
| S23 5 | 27 | (US-20020118289-\$ or US-20020126215-\$ or US-20020146156-\$ or US-20020181748-\$ or US-20030107666-\$ or US-20030107671-\$ or US-20030197799-\$ or US-20030206236-\$ or US-20040017494-\$ or US-20050231624-\$ or US-20060001753-\$).did. or (US-5206632-\$ or US-5877715-\$ or US-5990948-\$ or US-6067113-\$ or US-6069377-\$ or US-6473122-\$ or US-6518910-\$ or US-6525304-\$ or US-6552745-\$ or US-6556935-\$ or US-6580454-\$ or US-6583817-\$ or US-6590610-\$ or US-6600471-\$ or US-6665012-\$ or US-6667769-\$ or US-6727486-\$ or US-6753912-\$ or US-6947087-\$).did. or (EP-1227663-\$).did. or (JP-2002232785-\$).did. | US-PGPUB; USPAT; EPO; JPO | OR | OFF | 2006/12/22 07:06 |

EAST Search History

| | | | | | | |
|----------|-----|---|---------------------------------|----|-----|------------------|
| S23 6 | 27 | (US-20020118289-\$ or US-20020126215-\$ or US-20020146156-\$ or US-20020181748-\$ or US-20030107666-\$ or US-20030107671-\$ or US-20030197799-\$ or US-20030206236-\$ or US-20040017494-\$ or US-20050231624-\$ or US-20060001753-\$).did. or (US-5206632-\$ or US-5877715-\$ or US-5990948-\$ or US-6067113-\$ or US-6069377-\$ or US-6473122-\$ or US-6518910-\$ or US-6525304-\$ or US-6552745-\$ or US-6556935-\$ or US-6580454-\$ or US-6583817-\$ or US-6590610-\$ or US-6600471-\$ or US-6665012-\$ or US-6667769-\$ or US-6727486-\$ or US-6753912-\$ or US-6947087-\$).did. or (EP-1227663-\$).did. or (JP-2002232785-\$).did. | US-PGPUB; USPAT; EPO; JPO | OR | OFF | 2006/12/22 07:06 |
| S23 7 | 16 | S235 and voltage near2 conver\$5 | US-PGPUB; USPAT; EPO; JPO | OR | OFF | 2006/12/22 07:06 |
| S23 8 | 5 | S235 and voltage near2 conver\$5 near2 time | US-PGPUB; USPAT; EPO; JPO | OR | OFF | 2006/12/22 07:06 |
| S23 9 | 18 | S235 and amplifier | US-PGPUB; USPAT; EPO; JPO | OR | OFF | 2006/12/22 07:06 |
| S24 0 | 21 | S235 and (amplifier source) | US-PGPUB; USPAT; EPO; JPO | OR | OFF | 2006/12/22 07:06 |
| S24 1 | 156 | fowler.in. and voltage same time | US-PGPUB; USPAT; EPO; JPO | OR | OFF | 2006/12/22 07:06 |
| S24 2 | 15 | fowler.in. and voltage same time and pixel | US-PGPUB; USPAT; EPO; JPO | OR | OFF | 2006/12/22 07:06 |
| S24 3 | 1 | "5471515".pn. | US-PGPUB; USPAT; EPO; JPO | OR | OFF | 2006/12/22 07:06 |
| S24 4 | 2 | a/d near2 pixel same row adj select | US-PGPUB; USPAT; EPO; JPO | OR | OFF | 2006/12/22 07:06 |
| S24 5 | 591 | a/d near2 pixel | US-PGPUB; USPAT; EPO; JPO | OR | OFF | 2006/12/22 07:06 |

EAST Search History

| | | | | | | |
|----------|-----|--|---|----|-----|------------------|
| S24 6 | 29 | (analog and digital and pixel).ti. | US-PGPUB; USPAT; EPO; JPO | OR | OFF | 2006/12/22 07:06 |
| S24 7 | 40 | (digital adj pixel).ti. | US-PGPUB; USPAT; EPO; JPO | OR | OFF | 2006/12/22 07:06 |
| S24 8 | 2 | fowler.in. and (digital adj pixel) | US-PGPUB; USPAT; EPO; JPO | OR | OFF | 2006/12/22 07:06 |
| S24 9 | 4 | fossum.in. and (digital adj pixel) | US-PGPUB; USPAT; EPO; JPO | OR | OFF | 2006/12/22 07:06 |
| S25 0 | 13 | (digital adj pixel) same counter same latch\$3 | US-PGPUB; USPAT; EPO; JPO | OR | OFF | 2006/12/22 07:06 |
| S25 1 | 0 | 10/059488 and source | US-PGPUB; USPAT; EPO; JPO | OR | OFF | 2006/12/22 07:06 |
| S25 2 | 0 | 10/059488 and source\$1follower | US-PGPUB; USPAT; EPO; JPO | OR | OFF | 2006/12/22 07:06 |
| S25 3 | 0 | 10/059488 and amplif\$4 | US-PGPUB; USPAT; EPO; JPO | OR | OFF | 2006/12/22 07:06 |
| S25 4 | 97 | (satoshi near1 shigematsu).in. | US-PGPUB; USPAT; EPO; JPO | OR | OFF | 2006/12/22 07:06 |
| S25 5 | 117 | (hiroki near1 morimura).in. | US-PGPUB; USPAT; EPO; JPO | OR | OFF | 2006/12/22 07:06 |
| S25 6 | 12 | (S255 S254) and ((voltage near1 time) voltage/time voltage\$1time) | US-PGPUB; USPAT; EPO; JPO; DERWENT | OR | OFF | 2006/12/22 07:06 |
| S25 7 | 4 | (S255 S254) and ((voltage near1 time) voltage/time voltage\$1time) and counter and latch | US-PGPUB; USPAT; EPO; JPO; DERWENT | OR | OFF | 2006/12/22 07:06 |
| S25 8 | 2 | (S255 S254) and ((voltage near1 time) voltage/time voltage\$1time) and counter and latch and row | US-PGPUB; USPAT; EPO; JPO; DERWENT | OR | OFF | 2006/12/22 07:06 |
| S25 9 | 2 | (S255 S254) and ((voltage near1 time) voltage/time voltage\$1time) and column and row | US-PGPUB; USPAT; EPO; JPO; DERWENT | OR | OFF | 2006/12/22 07:06 |

EAST Search History

| | | | | | | |
|----------|------|--|---|----|-----|------------------|
| S26 0 | 8 | ((S255 S254) and ((voltage near1 time) voltage/time voltage\$1time) and matrix | US-PGPUB; USPAT; EPO; JPO; DERWENT | OR | OFF | 2006/12/22 07:06 |
| S26 1 | 4447 | ((voltage near1 time) voltage/time voltage\$1time) and row and column | US-PGPUB; USPAT; EPO; JPO; DERWENT | OR | OFF | 2006/12/22 07:06 |
| S26 2 | 860 | ((voltage near1 time) voltage/time voltage\$1time) and row and column and count\$3 and latch | US-PGPUB; USPAT; EPO; JPO; DERWENT | OR | OFF | 2006/12/22 07:06 |
| S26 3 | 308 | ((voltage near1 time) voltage/time voltage\$1time) and row and column and (counter same latch) | US-PGPUB; USPAT; EPO; JPO; DERWENT | OR | OFF | 2006/12/22 07:06 |
| S26 4 | 289 | ((voltage near1 time) voltage/time voltage\$1time) and (row same column) and (counter same latch) | US-PGPUB; USPAT; EPO; JPO; DERWENT | OR | OFF | 2006/12/22 07:06 |
| S26 5 | 271 | ((voltage near1 time) voltage/time voltage\$1time) and (row same column) and (counter same latch) and clock | US-PGPUB; USPAT; EPO; JPO; DERWENT | OR | OFF | 2006/12/22 07:06 |
| S26 6 | 191 | ((voltage near1 time) voltage/time voltage\$1time) and (row same column) and ((counter same latch) same clock\$3) | US-PGPUB; USPAT; EPO; JPO; DERWENT | OR | OFF | 2006/12/22 07:06 |
| S26 7 | 62 | ((voltage near1 time) voltage/time voltage\$1time) and (row same column) and ((counter same latch) same clock\$3) and pixel\$1 | US-PGPUB; USPAT; EPO; JPO; DERWENT | OR | OFF | 2006/12/22 07:06 |
| S26 8 | 0 | ((voltage near1 time) voltage/time voltage\$1time) adj convertor and (row same column) and ((counter same latch) same clock\$3) and pixel\$1 | US-PGPUB; USPAT; EPO; JPO; DERWENT | OR | OFF | 2006/12/22 07:06 |
| S26 9 | 0 | ((voltage near1 time) voltage/time voltage\$1time) adj converter and (row same column) and ((counter same latch) same clock\$3) and pixel\$1 | US-PGPUB; USPAT; EPO; JPO; DERWENT | OR | OFF | 2006/12/22 07:06 |
| S27 0 | 301 | ((voltage near1 time) voltage/time voltage\$1time) adj converter | US-PGPUB; USPAT; EPO; JPO; DERWENT | OR | OFF | 2006/12/22 07:06 |

EAST Search History

| | | | | | | |
|----------|----|---|---|----|-----|------------------|
| S27 1 | 19 | ((voltage near1 time) voltage/time voltage\$1time) adj converter and latch\$3 | US-PGPUB; USPAT; EPO; JPO; DERWENT | OR | OFF | 2006/12/22 07:06 |
| S27 2 | 58 | ((voltage near1 time) voltage/time voltage\$1time) adj conver\$5 and latch\$3 | US-PGPUB; USPAT; EPO; JPO; DERWENT | OR | OFF | 2006/12/22 07:06 |
| S27 3 | 33 | (US-20020118289-\$ or US-20020126215-\$ or US-20020146156-\$ or US-20020181748-\$ or US-20030107666-\$ or US-20030107671-\$ or US-20030197799-\$ or US-20030206236-\$ or US-20040017494-\$ or US-20050231624-\$ or US-20060001753-\$).did. or (US-5206632-\$ or US-5461425-\$ or US-5777596-\$ or US-5877715-\$ or US-5990948-\$ or US-6021172-\$ or US-6067113-\$ or US-6069377-\$ or US-6330030-\$ or US-6438257-\$ or US-6473122-\$ or US-6498576-\$ or US-6518910-\$ or US-6525304-\$ or US-6552745-\$ or US-6556935-\$ or US-6580454-\$ or US-6583817-\$ or US-6590610-\$ or US-6600471-\$ or US-6665012-\$ or US-6667769-\$ or US-6727486-\$ or US-6753912-\$ or US-6947087-\$ or US-6965407-\$).did. or (US-6990219-\$).did. or (EP-1227663-\$).did. or (JP-2002232785-\$).did. | US-PGPUB; USPAT; EPO; JPO | OR | OFF | 2006/12/22 07:06 |
| S27 4 | 16 | S273 and (voltage near1 time) | US-PGPUB; USPAT; EPO; JPO | OR | OFF | 2006/12/22 07:06 |
| S27 5 | 6 | S273 and (voltage near1 time) adj conver\$5 | US-PGPUB; USPAT; EPO; JPO | OR | OFF | 2006/12/22 07:06 |
| S27 6 | 6 | "6587145" | US-PGPUB; USPAT; EPO; JPO | OR | OFF | 2006/12/22 07:06 |
| S27 7 | 1 | "6438257".pn. and digital same sense | US-PGPUB; USPAT; EPO; JPO | OR | OFF | 2006/12/22 07:06 |
| S27 8 | 1 | "6438257".pn. and digital same sense\$1 | US-PGPUB; USPAT; EPO; JPO | OR | OFF | 2006/12/22 07:06 |

EAST Search History

| | | | | | | |
|----------|------|---|---------------------------------|----|-----|------------------|
| S27 9 | 1 | "6587145".pn. and digital same time | US-PGPUB; USPAT; EPO; JPO | OR | OFF | 2006/12/22 07:06 |
| S28 0 | 0 | "6587145".pn. and (column row) adj readout | US-PGPUB; USPAT; EPO; JPO | OR | OFF | 2006/12/22 07:06 |
| S28 1 | 1 | "6587145".pn. and readout | US-PGPUB; USPAT; EPO; JPO | OR | OFF | 2006/12/22 07:06 |
| S28 2 | 1 | "6587145".pn. and (column row) | US-PGPUB; USPAT; EPO; JPO | OR | OFF | 2006/12/22 07:06 |
| S28 3 | 1 | "6587145".pn. | US-PGPUB; USPAT; EPO; JPO | OR | OFF | 2006/12/22 07:06 |
| S28 4 | 18 | ("4563089" "4710817" "5065149" "5214274" "5373295" "5452001" "5461425" "5468954" "5565915" "5576729" "5650643" "5665959" "6166367" "6201572" "6330030").PN. OR ("6587145"). URPN. | US-PGPUB; USPAT; USOCR | OR | OFF | 2006/12/22 07:06 |
| S28 5 | 14 | S284 and (voltage same time) | US-PGPUB; USPAT; USOCR | OR | OFF | 2006/12/22 07:06 |
| S28 6 | 1 | "6330030".pn. and counter | US-PGPUB; USPAT; USOCR | OR | OFF | 2006/12/22 07:06 |
| S28 7 | 1 | "6330030".pn. and time | US-PGPUB; USPAT; USOCR | OR | OFF | 2006/12/22 07:06 |
| S28 8 | 347 | 348/304 | US-PGPUB; USPAT; EPO; JPO | OR | OFF | 2006/12/22 07:06 |
| S28 9 | 1029 | 348/302 | US-PGPUB; USPAT; EPO; JPO | OR | OFF | 2006/12/22 07:06 |
| S29 0 | 1453 | ((voltage\$2time\$1) (voltage near1 time) (time\$2voltage\$1)) and counter and row and column | US-PGPUB; USPAT; EPO; JPO | OR | OFF | 2006/12/22 07:06 |
| S29 1 | 169 | ((voltage\$2time\$1) (voltage near1 time) (time\$2voltage\$1)) same counter and row and column | US-PGPUB; USPAT; EPO; JPO | OR | OFF | 2006/12/22 07:06 |
| S29 3 | 47 | 348/304 and precision | US-PGPUB; USPAT; EPO; JPO | OR | OFF | 2006/12/22 07:06 |

EAST Search History

| | | | | | | |
|----------|-------|--|---------------------------------|----|-----|------------------|
| S29 4 | 251 | 348/30\$1 and precision | US-PGPUB; USPAT; EPO; JPO | OR | OFF | 2006/12/22 07:06 |
| S29 5 | 177 | 348/30\$1 and precision and noise | US-PGPUB; USPAT; EPO; JPO | OR | OFF | 2006/12/22 07:06 |
| S29 6 | 36 | 348/304 and precision and noise | US-PGPUB; USPAT; EPO; JPO | OR | OFF | 2006/12/22 07:06 |
| S29 7 | 84 | 348/302 and precision and noise | US-PGPUB; USPAT; EPO; JPO | OR | OFF | 2006/12/22 07:06 |
| S29 8 | 11 | 348/304 and precision and noise and counter | US-PGPUB; USPAT; EPO; JPO | OR | OFF | 2006/12/22 07:06 |
| S29 9 | 52 | 348/30\$1 and precision and noise and counter | US-PGPUB; USPAT; EPO; JPO | OR | OFF | 2006/12/22 07:06 |
| S30 0 | 41447 | (voltage\$1 same time\$1) and row and column | US-PGPUB; USPAT; EPO; JPO | OR | OFF | 2006/12/22 07:06 |
| S30 1 | 8099 | (voltage\$1 same time\$1) and row and column same pixel | US-PGPUB; USPAT; EPO; JPO | OR | OFF | 2006/12/22 07:06 |
| S30 2 | 5735 | (voltage\$1 same time\$1) and row and column same pixel\$1 and digital | US-PGPUB; USPAT; EPO; JPO | OR | OFF | 2006/12/22 07:06 |
| S30 3 | 1475 | (voltage\$1 same time\$1) and row and column same pixel\$1 same digital | US-PGPUB; USPAT; EPO; JPO | OR | OFF | 2006/12/22 07:06 |
| S30 4 | 923 | ((voltage\$1 same time\$1) same pixel\$1 same digital) and row and column | US-PGPUB; USPAT; EPO; JPO | OR | OFF | 2006/12/22 07:06 |
| S30 5 | 294 | ((voltage\$1 near7 time\$1) same pixel\$1 same digital) and row and column | US-PGPUB; USPAT; EPO; JPO | OR | OFF | 2006/12/22 07:06 |
| S30 6 | 97 | (satoshi near1 shigematsu).in. | US-PGPUB; USPAT; EPO; JPO | OR | OFF | 2006/12/22 07:06 |
| S30 7 | 50 | (satoshi near1 shigematsu).in. and (hiroki near1 morimura).in. | US-PGPUB; USPAT; EPO; JPO | OR | OFF | 2006/12/22 07:06 |
| S30 8 | 117 | (hiroki near1 morimura).in. | US-PGPUB; USPAT; EPO; JPO | OR | OFF | 2006/12/22 07:06 |

EAST Search History

| | | | | | | |
|----------|------|---|---|----|-----|------------------|
| S30 9 | 2799 | pixel and (latch same counter) | US-PGPUB; USPAT; EPO; JPO; DERWENT | OR | OFF | 2006/12/22 07:06 |
| S31 0 | 1010 | pixel and (latch same counter) and time same voltage | US-PGPUB; USPAT; EPO; JPO; DERWENT | OR | OFF | 2006/12/22 07:06 |
| S31 1 | 237 | (latch same counter) and (pixel same time same voltage) and row and column | US-PGPUB; USPAT; EPO; JPO; DERWENT | OR | OFF | 2006/12/22 07:06 |
| S31 2 | 27 | (US-20020118289-\$ or US-20020126215-\$ or US-20020146156-\$ or US-20020181748-\$ or US-20030107666-\$ or US-20030107671-\$ or US-20030197799-\$ or US-20030206236-\$ or US-20040017494-\$ or US-20050231624-\$ or US-20060001753-\$).did. or (US-5206632-\$ or US-5877715-\$ or US-5990948-\$ or US-6067113-\$ or US-6069377-\$ or US-6473122-\$ or US-6518910-\$ or US-6525304-\$ or US-6552745-\$ or US-6556935-\$ or US-6580454-\$ or US-6583817-\$ or US-6590610-\$ or US-6600471-\$ or US-6665012-\$ or US-6667769-\$ or US-6727486-\$ or US-6753912-\$ or US-6947087-\$).did. or (EP-1227663-\$).did. or (JP-2002232785-\$).did. | US-PGPUB; USPAT; EPO; JPO | OR | OFF | 2006/12/22 07:06 |
| S31 3 | 18 | S312 and amplifier | US-PGPUB; USPAT; EPO; JPO | OR | OFF | 2006/12/22 07:06 |
| S31 4 | 0 | 10/059488 and source | US-PGPUB; USPAT; EPO; JPO | OR | OFF | 2006/12/22 07:06 |
| S31 5 | 0 | 10/059488 and source\$1follower | US-PGPUB; USPAT; EPO; JPO | OR | OFF | 2006/12/22 07:06 |
| S31 6 | 0 | 10/059488 and amplif\$4 | US-PGPUB; USPAT; EPO; JPO | OR | OFF | 2006/12/22 07:06 |
| S31 7 | 97 | (satoshi near1 shigematsu).in. | US-PGPUB; USPAT; EPO; JPO | OR | OFF | 2006/12/22 07:06 |

EAST Search History

| | | | | | | |
|----------|------|--|---|----|-----|------------------|
| S31 8 | 117 | (hiroki near1 morimura).in. | US-PGPUB; USPAT; EPO; JPO | OR | OFF | 2006/12/22 07:06 |
| S31 9 | 4447 | ((voltage near1 time) voltage/time voltage\$1time) and row and column | US-PGPUB; USPAT; EPO; JPO; DERWENT | OR | OFF | 2006/12/22 07:06 |
| S32 0 | 860 | ((voltage near1 time) voltage/time voltage\$1time) and row and column and count\$3 and latch | US-PGPUB; USPAT; EPO; JPO; DERWENT | OR | OFF | 2006/12/22 07:06 |
| S32 1 | 308 | ((voltage near1 time) voltage/time voltage\$1time) and row and column and (counter same latch) | US-PGPUB; USPAT; EPO; JPO; DERWENT | OR | OFF | 2006/12/22 07:06 |
| S32 2 | 289 | ((voltage near1 time) voltage/time voltage\$1time) and (row same column) and (counter same latch) | US-PGPUB; USPAT; EPO; JPO; DERWENT | OR | OFF | 2006/12/22 07:06 |
| S32 3 | 271 | ((voltage near1 time) voltage/time voltage\$1time) and (row same column) and (counter same latch) and clock | US-PGPUB; USPAT; EPO; JPO; DERWENT | OR | OFF | 2006/12/22 07:06 |
| S32 4 | 191 | ((voltage near1 time) voltage/time voltage\$1time) and (row same column) and ((counter same latch) same clock\$3) | US-PGPUB; USPAT; EPO; JPO; DERWENT | OR | OFF | 2006/12/22 07:06 |
| S32 5 | 0 | ((voltage near1 time) voltage/time voltage\$1time) adj convertor and (row same column) and ((counter same latch) same clock\$3) and pixel\$1 | US-PGPUB; USPAT; EPO; JPO; DERWENT | OR | OFF | 2006/12/22 07:06 |
| S32 6 | 0 | ((voltage near1 time) voltage/time voltage\$1time) adj converter and (row same column) and ((counter same latch) same clock\$3) and pixel\$1 | US-PGPUB; USPAT; EPO; JPO; DERWENT | OR | OFF | 2006/12/22 07:06 |
| S32 7 | 301 | ((voltage near1 time) voltage/time voltage\$1time) adj converter | US-PGPUB; USPAT; EPO; JPO; DERWENT | OR | OFF | 2006/12/22 07:06 |

EAST Search History

| | | | | | | |
|----------|----|---|---------------------------------|----|-----|------------------|
| S32 8 | 33 | (US-20020118289-\$ or US-20020126215-\$ or US-20020146156-\$ or US-20020181748-\$ or US-20030107666-\$ or US-20030107671-\$ or US-20030197799-\$ or US-20030206236-\$ or US-20040017494-\$ or US-20050231624-\$ or US-20060001753-\$).did. or (US-5206632-\$ or US-5461425-\$ or US-5777596-\$ or US-5877715-\$ or US-5990948-\$ or US-6021172-\$ or US-6067113-\$ or US-6069377-\$ or US-6330030-\$ or US-6438257-\$ or US-6473122-\$ or US-6498576-\$ or US-6518910-\$ or US-6525304-\$ or US-6552745-\$ or US-6556935-\$ or US-6580454-\$ or US-6583817-\$ or US-6590610-\$ or US-6600471-\$ or US-6665012-\$ or US-6667769-\$ or US-6727486-\$ or US-6753912-\$ or US-6947087-\$ or US-6965407-\$).did. or (US-6990219-\$).did. or (EP-1227663-\$).did. or (JP-2002232785-\$).did. | US-PGPUB; USPAT; EPO; JPO | OR | OFF | 2006/12/22 07:06 |
| S32 9 | 16 | S328 and (voltage near1 time) | US-PGPUB; USPAT; EPO; JPO | OR | OFF | 2006/12/22 07:06 |
| S33 0 | 0 | "6587145".pn. and (column row) adj readout | US-PGPUB; USPAT; EPO; JPO | OR | OFF | 2006/12/22 07:06 |
| S33 1 | 1 | 10/059488 | US-PGPUB; USPAT; EPO; JPO | OR | OFF | 2006/12/22 07:06 |
| S33 2 | 1 | "5471515".pn. | US-PGPUB; USPAT; EPO; JPO | OR | OFF | 2006/12/22 07:06 |
| S33 3 | 1 | "6438257".pn. and digital same sense | US-PGPUB; USPAT; EPO; JPO | OR | OFF | 2006/12/22 07:06 |
| S33 4 | 1 | "6438257".pn. and digital same sense\$1 | US-PGPUB; USPAT; EPO; JPO | OR | OFF | 2006/12/22 07:06 |
| S33 5 | 1 | "6587145".pn. and digital same time | US-PGPUB; USPAT; EPO; JPO | OR | OFF | 2006/12/22 07:06 |

EAST Search History

| | | | | | | |
|----------|----|--|---|----|-----|------------------|
| S33 6 | 1 | "6587145".pn. and readout | US-PGPUB; USPAT; EPO; JPO | OR | OFF | 2006/12/22 07:06 |
| S33 7 | 1 | "6587145".pn. and (column row) | US-PGPUB; USPAT; EPO; JPO | OR | OFF | 2006/12/22 07:06 |
| S33 8 | 1 | "6587145".pn. | US-PGPUB; USPAT; EPO; JPO | OR | OFF | 2006/12/22 07:06 |
| S33 9 | 1 | "6330030".pn. and counter | US-PGPUB; USPAT; USOCR | OR | OFF | 2006/12/22 07:06 |
| S34 0 | 1 | "6330030".pn. and time | US-PGPUB; USPAT; USOCR | OR | OFF | 2006/12/22 07:06 |
| S34 1 | 3 | ((voltage\$2time\$1)) same counter and row and column | US-PGPUB; USPAT; EPO; JPO | OR | OFF | 2006/12/22 07:06 |
| S34 2 | 6 | ((voltage\$2time\$1)) near2 (converter\$1 conversion\$1) and row and column | US-PGPUB; USPAT; EPO; JPO | OR | OFF | 2006/12/22 07:06 |
| S34 3 | 30 | 348/302 and precision and noise and counter | US-PGPUB; USPAT; EPO; JPO | OR | OFF | 2006/12/22 07:06 |
| S34 4 | 80 | "348"/\$6 and ((voltage\$1 near7 time\$1) same pixel\$1 same digital) and row and column | US-PGPUB; USPAT; EPO; JPO | OR | OFF | 2006/12/22 07:06 |
| S34 5 | 15 | ((satoshi near1 shigematsu).in. and (hiroki near1 morimura).in.) and counter | US-PGPUB; USPAT; EPO; JPO | OR | OFF | 2006/12/22 07:06 |
| S34 6 | 12 | (S308 S306) and ((voltage near1 time) voltage/time voltage\$1time) | US-PGPUB; USPAT; EPO; JPO | OR | OFF | 2006/12/22 07:06 |
| S34 7 | 62 | "348"/\$6 and (latch same counter) and (pixel same time same voltage) and row and column | US-PGPUB; USPAT; EPO; JPO; DERWENT | OR | OFF | 2006/12/22 07:06 |

EAST Search History

| | | | | | | |
|----------|----|---|---------------------------------|----|-----|------------------|
| S34 8 | 27 | (US-20020118289-\$ or US-20020126215-\$ or US-20020146156-\$ or US-20020181748-\$ or US-20030107666-\$ or US-20030107671-\$ or US-20030197799-\$ or US-20030206236-\$ or US-20040017494-\$ or US-20050231624-\$ or US-20060001753-\$).did. or (US-5206632-\$ or US-5877715-\$ or US-5990948-\$ or US-6067113-\$ or US-6069377-\$ or US-6473122-\$ or US-6518910-\$ or US-6525304-\$ or US-6552745-\$ or US-6556935-\$ or US-6580454-\$ or US-6583817-\$ or US-6590610-\$ or US-6600471-\$ or US-6665012-\$ or US-6667769-\$ or US-6727486-\$ or US-6753912-\$ or US-6947087-\$).did. or (EP-1227663-\$).did. or (JP-2002232785-\$).did. | US-PGPUB; USPAT; EPO; JPO | OR | OFF | 2006/12/22 07:06 |
| S34 9 | 27 | (US-20020118289-\$ or US-20020126215-\$ or US-20020146156-\$ or US-20020181748-\$ or US-20030107666-\$ or US-20030107671-\$ or US-20030197799-\$ or US-20030206236-\$ or US-20040017494-\$ or US-20050231624-\$ or US-20060001753-\$).did. or (US-5206632-\$ or US-5877715-\$ or US-5990948-\$ or US-6067113-\$ or US-6069377-\$ or US-6473122-\$ or US-6518910-\$ or US-6525304-\$ or US-6552745-\$ or US-6556935-\$ or US-6580454-\$ or US-6583817-\$ or US-6590610-\$ or US-6600471-\$ or US-6665012-\$ or US-6667769-\$ or US-6727486-\$ or US-6753912-\$ or US-6947087-\$).did. or (EP-1227663-\$).did. or (JP-2002232785-\$).did. | US-PGPUB; USPAT; EPO; JPO | OR | OFF | 2006/12/22 07:06 |
| S35 0 | 16 | S312 and voltage near2 conver\$5 | US-PGPUB; USPAT; EPO; JPO | OR | OFF | 2006/12/22 07:06 |
| S35 1 | 5 | S312 and voltage near2 conver\$5 near2 time | US-PGPUB; USPAT; EPO; JPO | OR | OFF | 2006/12/22 07:06 |

EAST Search History

| | | | | | | |
|----------|----|---|---|----|-----|------------------|
| S35 2 | 21 | S312 and (amplifier source) | US-PGPUB; USPAT; EPO; JPO | OR | OFF | 2006/12/22 07:06 |
| S35 3 | 15 | fowler.in. and voltage same time and pixel | US-PGPUB; USPAT; EPO; JPO | OR | OFF | 2006/12/22 07:06 |
| S35 4 | 2 | a/d near2 pixel same row adj select | US-PGPUB; USPAT; EPO; JPO | OR | OFF | 2006/12/22 07:06 |
| S35 5 | 29 | (analog and digital and pixel).ti. | US-PGPUB; USPAT; EPO; JPO | OR | OFF | 2006/12/22 07:06 |
| S35 6 | 40 | (digital adj pixel).ti. | US-PGPUB; USPAT; EPO; JPO | OR | OFF | 2006/12/22 07:06 |
| S35 7 | 2 | fowler.in. and (digital adj pixel) | US-PGPUB; USPAT; EPO; JPO | OR | OFF | 2006/12/22 07:06 |
| S35 8 | 4 | fossum.in. and (digital adj pixel) | US-PGPUB; USPAT; EPO; JPO | OR | OFF | 2006/12/22 07:06 |
| S35 9 | 13 | (digital adj pixel) same counter same latch\$3 | US-PGPUB; USPAT; EPO; JPO | OR | OFF | 2006/12/22 07:06 |
| S36 0 | 12 | (S318 S317) and ((voltage near1 time) voltage/time voltage\$1time) | US-PGPUB; USPAT; EPO; JPO; DERWENT | OR | OFF | 2006/12/22 07:06 |
| S36 1 | 4 | (S318 S317) and ((voltage near1 time) voltage/time voltage\$1time) and counter and latch | US-PGPUB; USPAT; EPO; JPO; DERWENT | OR | OFF | 2006/12/22 07:06 |
| S36 2 | 2 | (S318 S317) and ((voltage near1 time) voltage/time voltage\$1time) and counter and latch and row | US-PGPUB; USPAT; EPO; JPO; DERWENT | OR | OFF | 2006/12/22 07:06 |
| S36 3 | 2 | (S318 S317) and ((voltage near1 time) voltage/time voltage\$1time) and column and row | US-PGPUB; USPAT; EPO; JPO; DERWENT | OR | OFF | 2006/12/22 07:06 |
| S36 4 | 8 | (S318 S317) and ((voltage near1 time) voltage/time voltage\$1time) and matrix | US-PGPUB; USPAT; EPO; JPO; DERWENT | OR | OFF | 2006/12/22 07:06 |
| S36 5 | 62 | ((voltage near1 time) voltage/time voltage\$1time) and (row same column) and ((counter same latch) same clock\$3) and pixel\$1 | US-PGPUB; USPAT; EPO; JPO; DERWENT | OR | OFF | 2006/12/22 07:06 |

EAST Search History

| | | | | | | |
|----------|----|---|---|----|-----|------------------|
| S36 6 | 19 | ((voltage near1 time) voltage/time voltage\$1time) adj converter and latch\$3 | US-PGPUB; USPAT; EPO; JPO; DERWENT | OR | OFF | 2006/12/22 07:06 |
| S36 7 | 58 | ((voltage near1 time) voltage/time voltage\$1time) adj conver\$5 and latch\$3 | US-PGPUB; USPAT; EPO; JPO; DERWENT | OR | OFF | 2006/12/22 07:06 |
| S36 8 | 33 | (US-20020118289-\$ or US-20020126215-\$ or US-20020146156-\$ or US-20020181748-\$ or US-20030107666-\$ or US-20030107671-\$ or US-20030197799-\$ or US-20030206236-\$ or US-20040017494-\$ or US-20050231624-\$ or US-20060001753-\$).did. or (US-5206632-\$ or US-5461425-\$ or US-5777596-\$ or US-5877715-\$ or US-5990948-\$ or US-6021172-\$ or US-6067113-\$ or US-6069377-\$ or US-6330030-\$ or US-6438257-\$ or US-6473122-\$ or US-6498576-\$ or US-6518910-\$ or US-6525304-\$ or US-6552745-\$ or US-6556935-\$ or US-6580454-\$ or US-6583817-\$ or US-6590610-\$ or US-6600471-\$ or US-6665012-\$ or US-6667769-\$ or US-6727486-\$ or US-6753912-\$ or US-6947087-\$ or US-6965407-\$).did. or (US-6990219-\$).did. or (EP-1227663-\$).did. or (JP-2002232785-\$).did. | US-PGPUB; USPAT; EPO; JPO | OR | OFF | 2006/12/22 07:06 |
| S36 9 | 6 | S328 and (voltage near1 time) adj conver\$5 | US-PGPUB; USPAT; EPO; JPO | OR | OFF | 2006/12/22 07:06 |
| S37 0 | 6 | "6587145" | US-PGPUB; USPAT; EPO; JPO | OR | OFF | 2006/12/22 07:06 |
| S37 1 | 18 | ("4563089" "4710817" "5065149" "5214274" "5373295" "5452001" "5461425" "5468954" "5565915" "5576729" "5650643" "5665959" "6166367" "6201572" "6330030").PN. OR ("6587145"). URPN. | US-PGPUB; USPAT; USOCR | OR | OFF | 2006/12/22 07:06 |

EAST Search History

| | | | | | | |
|----------|-----|---|---|----|-----|------------------|
| S37 2 | 14 | S371 and (voltage same time) | US-PGPUB; USPAT; USOCR | OR | OFF | 2006/12/22 07:06 |
| S37 3 | 156 | fowler.in. and voltage same time | US-PGPUB; USPAT; EPO; JPO | OR | OFF | 2006/12/22 07:06 |
| S37 4 | 488 | pixel and (latch same counter) and time same voltage and row and column | US-PGPUB; USPAT; EPO; JPO; DERWENT | OR | OFF | 2006/12/22 07:07 |
| S37 5 | 591 | a/d near2 pixel | US-PGPUB; USPAT; EPO; JPO | OR | OFF | 2006/12/22 07:07 |
| S37 6 | 359 | ((voltage\$2time\$1) (voltage near1 time) (time\$2voltage\$1)) and counter and stagger\$4 | US-PGPUB; USPAT; EPO; JPO | OR | OFF | 2006/12/22 07:07 |
| S37 7 | 239 | ((voltage\$2time\$1) (voltage near1 time) (time\$2voltage\$1)) and counter and stagger\$4 and (pixel\$1 sensor\$1) | US-PGPUB; USPAT; EPO; JPO | OR | OFF | 2006/12/22 07:07 |
| S37 8 | 44 | (US-20020146156-\$ or US-20020181748-\$ or US-20060001753-\$ or US-20050231624-\$ or US-20030107671-\$ or US-20030197799-\$ or US-20030206236-\$ or US-20040017494-\$ or US-20020126215-\$ or US-20020118289-\$ or US-20030107666-\$).did. or (US-5206632-\$ or US-5461425-\$ or US-6556935-\$ or US-6438257-\$ or US-6473122-\$ or US-5565915-\$ or US-6552745-\$ or US-6947087-\$ or US-5777596-\$ or US-6580454-\$ or US-6498576-\$ or US-6665012-\$ or US-5877715-\$ or US-6583817-\$ or US-6990219-\$ or US-6067113-\$ or US-6965407-\$ or US-6330030-\$ or US-6021172-\$ or US-6600471-\$ or US-6069377-\$ or US-6753912-\$ or US-6727486-\$ or US-5990948-\$ or US-6587145-\$ or US-6590610-\$).did. or (US-6518910-\$ or US-6525304-\$ or US-6667769-\$ or US-5650643-\$ or US-5214274-\$ or US-6778212-\$).did. or (EP-1227663-\$).did. or (JP-2002232785-\$).did. | US-PGPUB; USPAT; EPO; JPO | OR | OFF | 2006/12/22 07:07 |

EAST Search History

| | | | | | | |
|----------|-----|---|---------------------------------|----|-----|------------------|
| S37 9 | 346 | 348/312.ccls. | US-PGPUB; USPAT; EPO; JPO | OR | OFF | 2006/12/22 07:07 |
| S38 0 | 134 | 348/304.ccls. | US-PGPUB; USPAT; EPO; JPO | OR | OFF | 2006/12/22 07:07 |
| S38 1 | 440 | 348/302.ccls. | US-PGPUB; USPAT; EPO; JPO | OR | OFF | 2006/12/22 07:07 |
| S38 2 | 45 | (US-20020146156-\$ or US-20020181748-\$ or US-20060001753-\$ or US-20050231624-\$ or US-20030107671-\$ or US-20030197799-\$ or US-20030206236-\$ or US-20040017494-\$ or US-20020126215-\$ or US-20020118289-\$ or US-20030107666-\$).did. or (US-5206632-\$ or US-5461425-\$ or US-6556935-\$ or US-6438257-\$ or US-6473122-\$ or US-5565915-\$ or US-6552745-\$ or US-6947087-\$ or US-5777596-\$ or US-6580454-\$ or US-6498576-\$ or US-6665012-\$ or US-5877715-\$ or US-6583817-\$ or US-6990219-\$ or US-6067113-\$ or US-6965407-\$ or US-6330030-\$ or US-6021172-\$ or US-6600471-\$ or US-6069377-\$ or US-6753912-\$ or US-6727486-\$ or US-5990948-\$ or US-6587145-\$ or US-6590610-\$).did. or (US-6518910-\$ or US-6525304-\$ or US-6667769-\$ or US-5650643-\$ or US-5214274-\$ or US-6778212-\$).did. or (EP-1227663-\$).did. or (JP-2002232785-\$).did. | US-PGPUB; USPAT; EPO; JPO | OR | OFF | 2006/12/22 07:07 |
| S38 3 | 22 | S382 and ((voltage\$1 near time) (voltage\$1time)) | US-PGPUB; USPAT; EPO; JPO | OR | OFF | 2006/12/22 07:07 |
| S38 4 | 190 | fingerprint\$3 and ((voltage\$1 near time) (voltage\$1time)) | US-PGPUB; USPAT; EPO; JPO | OR | OFF | 2006/12/22 07:07 |
| S38 5 | 108 | fingerprint\$3 and ((voltage\$1 near time) (voltage\$1time)) and (count\$3) | US-PGPUB; USPAT; EPO; JPO | OR | OFF | 2006/12/22 07:07 |

EAST Search History

| | | | | | | |
|----------|-----|--|---------------------------------|----|-----|------------------|
| S38 6 | 27 | fingerprint\$3 and ((voltage\$1 near time) (voltage\$1time)) and (count\$3) and latch\$3 | US-PGPUB; USPAT; EPO; JPO | OR | OFF | 2006/12/22 07:07 |
| S38 7 | 3 | ("5325442" "5577720" "6259804").PN. | US-PGPUB; USPAT; USOCR | OR | OFF | 2006/12/22 07:07 |
| S38 8 | 5 | ("6556935").URPN. | USPAT | OR | OFF | 2006/12/22 07:07 |
| S38 9 | 29 | S384 and (voltage-time voltage/time) | US-PGPUB; USPAT; EPO; JPO | OR | OFF | 2006/12/22 07:07 |
| S39 0 | 0 | (digital adj camera adj for adj machine adj vision) near3 simoni | US-PGPUB; USPAT; EPO; JPO | OR | OFF | 2006/12/22 07:07 |
| S39 1 | 0 | (digital adj camera adj for adj machine adj vision) | US-PGPUB; USPAT; EPO; JPO | OR | OFF | 2006/12/22 07:07 |
| S39 2 | 0 | (digital near2 camera near2 for near2 machine near2 vision) | US-PGPUB; USPAT; EPO; JPO | OR | OFF | 2006/12/22 07:07 |
| S39 3 | 37 | (digital near2 camera near2 machine near2 vision) | US-PGPUB; USPAT; EPO; JPO | OR | OFF | 2006/12/22 07:07 |
| S39 4 | 28 | (digital near2 camera near2 machine near2 vision) and simoni | US-PGPUB; USPAT; EPO; JPO | OR | OFF | 2006/12/22 07:07 |
| S39 5 | 0 | 10/059488 and stagger\$4 | US-PGPUB; USPAT; EPO; JPO | OR | OFF | 2006/12/22 07:07 |
| S39 6 | 1 | 10/059488 and start\$3 | US-PGPUB; USPAT; EPO; JPO | OR | OFF | 2006/12/22 07:07 |
| S39 7 | 440 | 348/302.ccls. | US-PGPUB; USPAT; EPO; JPO | OR | OFF | 2006/12/22 07:07 |
| S39 8 | 134 | 348/304.ccls. | US-PGPUB; USPAT; EPO; JPO | OR | OFF | 2006/12/22 07:07 |
| S39 9 | 539 | S397 S398 | US-PGPUB; USPAT; EPO; JPO | OR | OFF | 2006/12/22 07:07 |
| S40 0 | 2 | US-5565915-\$.DID. OR US-5872596-\$.DID. | US-PGPUB; USPAT; EPO; JPO | OR | OFF | 2006/12/22 07:07 |
| S1 | 1 | 10/059488 | US-PGPUB; USPAT; EPO; JPO | OR | OFF | 2006/12/22 07:51 |

EAST Search History

| | | | | | | |
|----------|-----|--------------------------|---------------------------------|----|-----|------------------|
| S40 2 | 0 | 10/059488 and staggered | US-PGPUB; USPAT; EPO; JPO | OR | OFF | 2006/12/22 07:54 |
| S40 3 | 0 | 10/059488 and staggs\$5 | US-PGPUB; USPAT; EPO; JPO | OR | OFF | 2006/12/22 07:54 |
| S40 1 | 1 | 10/059488 and counter | US-PGPUB; USPAT; EPO; JPO | OR | OFF | 2006/12/22 08:07 |
| S40 4 | 1 | 10/059488 and counter\$1 | US-PGPUB; USPAT; EPO; JPO | OR | OFF | 2006/12/22 08:07 |
| S29 2 | 114 | 348/302 and precision | US-PGPUB; USPAT; EPO; JPO | OR | OFF | 2006/12/22 08:26 |
| S40 5 | 440 | 348/302.ccls. | US-PGPUB; USPAT; EPO; JPO | OR | OFF | 2006/12/22 08:27 |
| S40 6 | 134 | 348/304.ccls. | US-PGPUB; USPAT; EPO; JPO | OR | OFF | 2006/12/22 08:27 |
| S40 7 | 346 | 348/312.ccls. | US-PGPUB; USPAT; EPO; JPO | OR | OFF | 2006/12/22 08:27 |